



Volunteer Lake Assessment Program Individual Lake Reports

KATHERINE, LAKE, PIERMONT, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	525	Max. Depth (m):	6.4	Flushing Rate (yr ⁻¹)	2.1
Surface Area (Ac.):	37	Mean Depth (m):	2.8	P Retention Coef:	0.63
Shore Length (m):	1,800	Volume (m ³):	494,500	Elevation (ft):	1339

TROPHIC CLASSIFICATION

Year	Trophic class
1985	OLIGOTROPHIC
2005	OLIGOTROPHIC

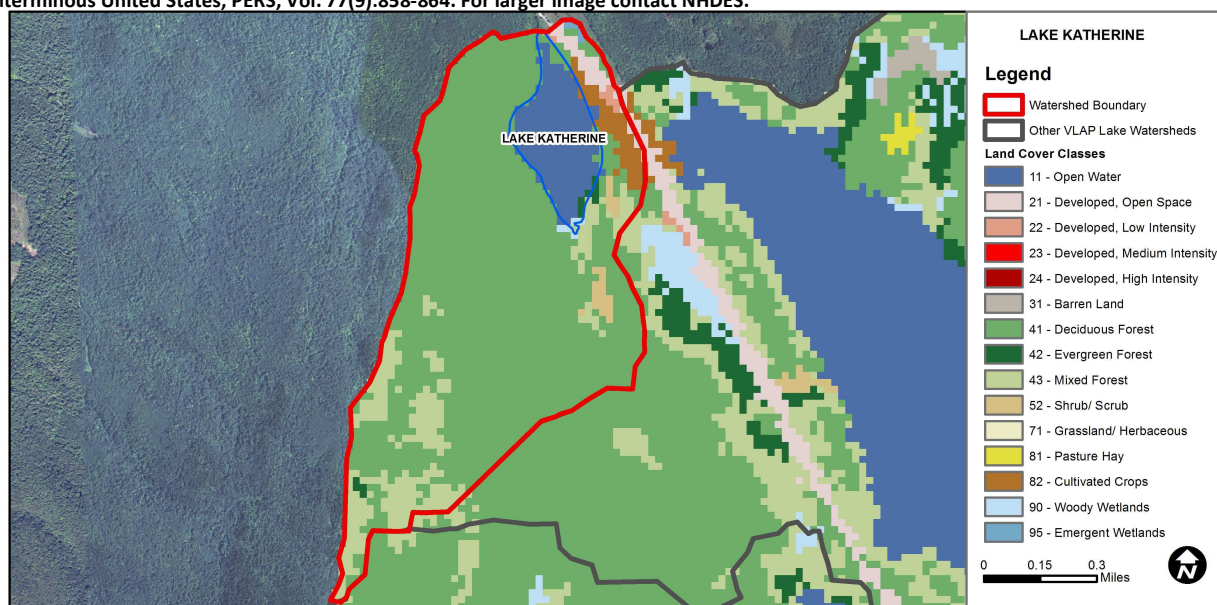
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geometric mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	8.94	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	1.47	Deciduous Forest	71.96	Pasture Hay	0
Developed-Low Intensity	0.44	Evergreen Forest	0.59	Cultivated Crops	2.7
Developed-Medium Intensity	0	Mixed Forest	12.08	Woody Wetlands	0.25
Developed-High Intensity	0	Shrub-Scrub	1.23	Emergent Wetlands	0.2



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

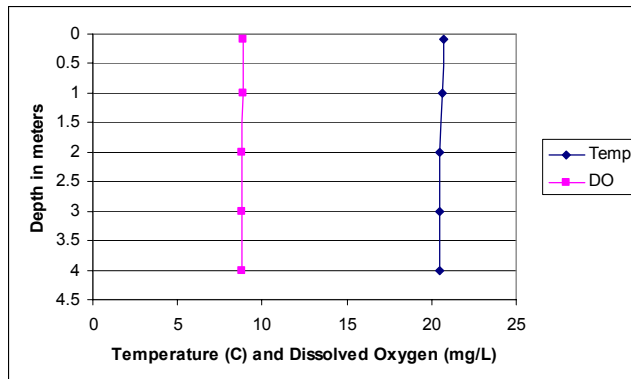
LAKE KATHERINE, PIERMONT, NH

2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were low in 2012. Historical trend analysis indicates chlorophyll levels tend to fluctuate from year to year.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity was relatively low and slightly less than the NH lake median.
- 🔥 **TOTAL PHOSPHORUS:** Phosphorus levels were low in 2012. Historical trend analysis indicates phosphorus levels tend to fluctuate from year to year.
- 🔥 **TRANSPARENCY:** Lake transparency was lower in 2012 compared with previous years. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- 🔥 **TURBIDITY:** Turbidity levels were low in 2012.
- 🔥 **pH:** pH levels were sufficient to support aquatic life.
- 🔥 **RECOMMENDED ACTIONS:** Increase monitoring frequency to three events per summer to better assess water quality trends. Otherwise, water quality looks good!

Dissolved Oxygen & Temperature Profile



Station Name	Table 1. 2012 Average Water Quality Data for LAKE KATHERINE							
	Alk.	Chlor-a	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	ug/l	m		ntu	
					NVS	VS		
Deep Epilimnion	5.00	2.93	37.7	6	3.45	4.00	0.72	7.11
Deep Hypolimnion			37.6	6			0.7	7.12

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.

This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:
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Historical Deep Spot Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data

